

Title (en)  
GRAPHENE SYNTHESIS

Title (de)  
GRAPHENSYNTHESE

Title (fr)  
SYNTHÈSE DE GRAPHÈNE

Publication  
**EP 3334688 A4 20190508 (EN)**

Application  
**EP 16836265 A 20160812**

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Abstract (en)  
[origin: WO2017027908A1] The invention relates to methods for the production of high quality graphene. In particular, the invention relates to single-step thermal methods which can be carried out in an ambient-air or vacuum environment using renewable biomass as a carbon source. Specifically, the invention comprises heating a metal substrate and carbon source in a sealed ambient environment to a temperature which produces carbon vapour from the carbon source such that the vapour comes into contact with the metal substrate, maintaining the temperature for a time sufficient to form a graphene lattice and then cooling the substrate at a controlled rate to form a deposited graphene.

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Citation (search report)  
• [X] US 2014170317 A1 20140619 - LI XUESONG [US], et al  
• [A] US 2014120030 A1 20140501 - KIM TAE-WOOK [KR], et al  
• [A] JP 2012025653 A 20120209 - POHANG UNIV OF SCIENCE & TECH ACADEMY-INDUSTRY COOP & US 9159924 B2 20151013 - LEE TAE-WOO [KR], et al  
• [A] GEDENG RUAN ET AL: "Growth of Graphene from Food, Insects, and Waste", ACS NANO, vol. 5, no. 9, 27 September 2011 (2011-09-27), US, pages 7601 - 7607, XP055568952, ISSN: 1936-0851, DOI: 10.1021/nn202625c  
• [A] ZHANCHENG LI ET AL: "Low-Temperature Growth of Graphene by Chemical Vapor Deposition Using Solid and Liquid Carbon Sources", ACS NANO, vol. 5, no. 4, 26 April 2011 (2011-04-26), pages 3385 - 3390, XP055100300, ISSN: 1936-0851, DOI: 10.1021/nn200854p  
• See references of WO 2017027908A1

Designated contracting state (EPC)  
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